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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/664,332 | 09/18/2000 | Noriya Hayashi | 001195 | 4422 |

23850 7590 02/20/2003

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EXAMINER

SELLERS, ROBERT E

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1712

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DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/664,332

Applicant(s)

HAYASHI, NORIYA

Examiner

Robert Sellers

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1712

--Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--

THE REPLY FILED 03 February 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 5 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☒ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See the attachment.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See the attachment.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: _____.

Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☒ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). 14.
10. ☒ Other: Form PTO-892.

Robert Sellers
Primary Examiner
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The amendment after Final rejection filed February 3, 2003 (Paper No. 16) has been denied entry. The clean version of claim 1 on page 2 of the amendment, line 7, omits the phrase "Formula (IV) or (IV') described above, R⁶ represents hydrogen, halogen," and the letter "n," is not found in Formulae (IV) or (IV').

Furthermore, the addition of two new claims 27 and 28 does not equal the cancellation of at least two claims since only claim 20 has been cancelled.

The teachings of a reference are not confined to the examples. Buchwalter et al. (col. 7, lines 2-3) discloses from 0.5-10% by weight of the sulfonium salt photoinitiator.

Starkey (col. 21, lines 12-17) espouses from about 0.01-10 parts by weight of thermohardening catalyst such as maleic anhydride (col. 20, lines 38-39) per 100 parts by weight of the epoxy resin such as 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate (col. 4, lines 16-17, ERL 4221).

The formula weight for maleic anhydride is 98.06 g/mole. The formula weight for 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate is 316 g/mole (Chemical abstracts registry no. 25085-98-7 reveals the molecular formula as C₁₄H₂₀O₄). The range of from about 0.01-10 parts by weight of maleic anhydride converts to from about 0.001-0.1 mole. The amount of 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate of 100 parts by weight converts to 0.32 mole.

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Accordingly, Starkey encompasses from about 0.003-0.31 mole of maleic anhydride per mole of 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate which is within the claimed realm of from 0.1-1.4 mole of curing agent per mole of photopolymerizable resin when the curing agent is maleic anhydride and the photopolymerizable resin is 3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexane carboxylate.

Green et al. '938 (col. 11, lines 55-63 and col. 12, lines 18-19) and Green '592 (col. 2, lines 7-11 and col. 4, line 17) discloses a combination of an aromatic sulfonium salt photoinitiator and a polycarboxylic acid anhydride curing agent which is generically required in independent claim 1.

Hamazu et al. sets forth acid anhydrides in column 5, line 14.

Ohnishi et al. (col. 4, lines 47-50) espouses from about 0.01-10 parts by weight of benzyl-4-hydroxyphenylmethylsulfonium hexafluoroantimonate (col. 4, line 44, Sanaid SI-80L) together with curing agents (col. 5, line 16). It would have been obvious to employ the anhydride curing agent of the Green (et al.) patents and Starkey at levels of as much as 0.31 mole per mole of epoxy resin in order to enhance the strength (Starkey, col. 21, lines 17-19) and to ensure a complete cure (Green et al. '938, col. 11, lines 61-63).

The attached Experiment data has not been considered since it cannot be verified in the absence of a submission under 37 CFR 1.132.

(703) 308-2399 Monday to Friday from 9:30 to 6:00 EST

rs
2/14/03



ROBERT E.L. SELLERS
PRIMARY EXAMINER